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RESEARCH PROJECT TITLE

Investigation of the Impacts of Rural Development on Iowa's Secondary Road Systems

SPONSOR

the Iowa Highway Research Board
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Investigation of the Impacts of Rural Development on Iowa's Secondary Road Systems

tech transfer summary

Examination of the issues associated with the impacts of rural development on secondary road systems can help growth pay its own way.

Objective

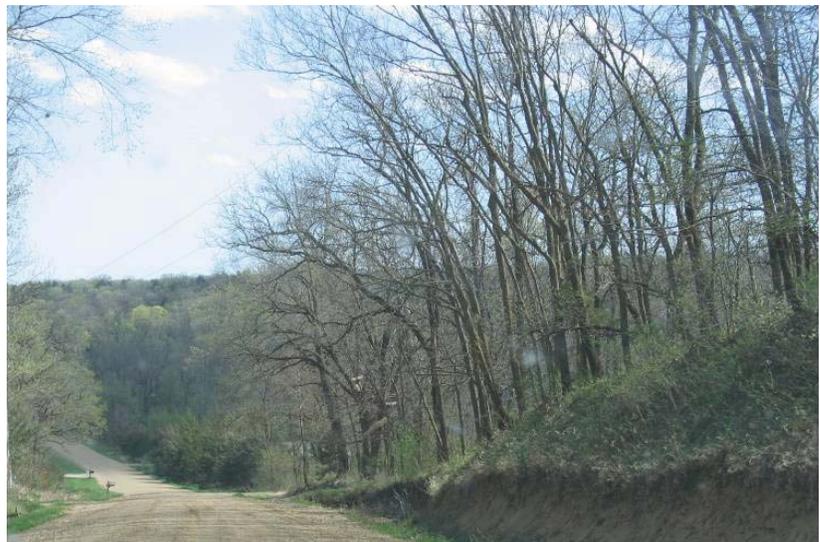
This research brings together economic, spatial, and legal analysis methods to address the impacts of rural development on the secondary road system and to provide county engineers, county supervisors, and state legislators with guidance in addressing the challenges associated with this development.

Problem Statement

Today, many of Iowa's counties are experiencing an increase in rural development. Two specific types of development were focused on for this research: rural residential subdivisions and livestock production operations. Rural residential developments are primarily year-round single-family homes, though some are vacation homes. Livestock production in Iowa includes hog, beef, and poultry facilities. These two types of rural development, while obviously very different in nature and incompatible with each other, share one important characteristic: They each generate substantial amounts of new traffic for Iowa's extensive secondary road system.

Research Description

In accordance with the Iowa Highway Research Board's Request for Proposal (RFP), the purpose of this research was to examine the service, budgetary, and policy impacts created by rural growth for county secondary road departments.



A secondary road in Iowa

This study includes consideration of economic and policy impacts as well as discussion of customer expectations for county road service.

The following research objectives were identified:

- Create, test, and document a small area spreadsheet model that county officials can use to assess the impact of proposed developments (both residential and livestock confinements) on the road capacity and fiscal resources of county governments.
- Study concepts including developer-paid impact fees, right of way dedication, and road surfacing/dust remediation that could help meet Iowa DNR requirements and current and future landowner expectations.
- Evaluate the appropriateness and legality of transferring road upgrade expenses to livestock operators and rural residential subdivision developers.
- Create policy recommendations, based on research of existing Iowa law and laws enacted in other states, that will give legislators and county boards of supervisors direction in creating/revising existing laws to enable local governments to assess the true costs of development on the road system.
- Develop educational materials and conduct workshops for local officials and stakeholders interested in using the spreadsheet model or learning about policy recommendations.
- Summarize findings and present case studies in a technical document appropriate to the engineering community as well as in an easy-to-read pamphlet geared towards a non-technical audience that includes county boards of supervisors, state legislators, and environmental and land use/zoning officials.
- Coordinate with the Iowa Local Technical Assistance Program (LTAP) to conduct technology transfer activities.

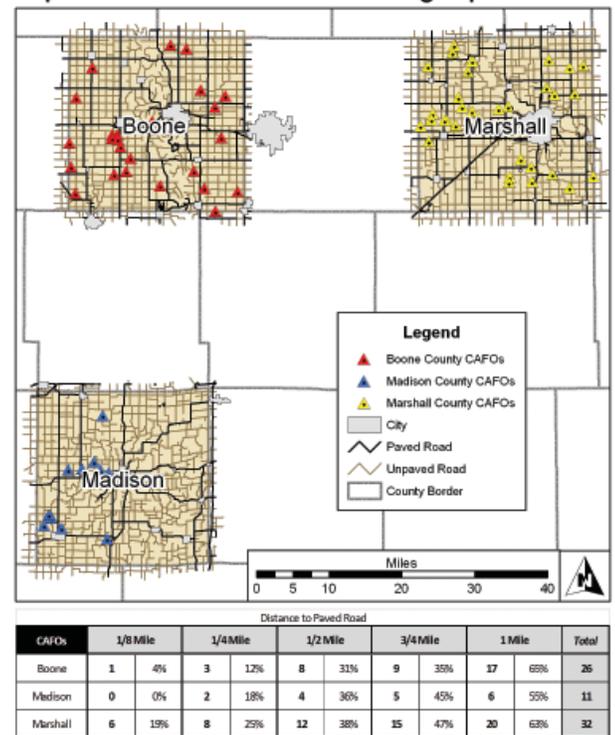
Spatial Analysis

Previous work conducted by CTRE on land use change in Iowa indicates that rural residential subdivisions tend to be concentrated in areas that are near metropolitan areas and near major transportation arteries such as Interstates and other commuting routes.

Additionally, they tend to locate near amenities such as water features and forested land, rather than on prime farm land. This means that such subdivisions tend to be concentrated in areas that fit a specific spatial profile, likely near paved roads.

On the other hand, livestock operation locations are regulated by the DNR Master Matrix. These facilities tend to develop in rather isolated areas to minimize environmental and social externalities. They appear much more randomly distributed across the map of Iowa.

Investigation of the Impact of Rural Development on Secondary Road Systems
Spatial Distribution of Feeding Operations



Confined Animal Feeding Operations in Boone, Madison, and Marshall Counties

Case Study Analysis

For this study, a rural subdivision is defined as a tract or parcel of land outside city limits that if divided into three or more lots. The researchers assumed that all of the spatial data about subdivisions that they received from the participating counties referred to residential, and not commercial or agricultural subdivisions.

Focus Groups & Survey

Three counties in Central Iowa were selected for the focus group meetings: Boone, Madison, and Marshall. One subdivision was chosen from each county and invitations to the focus group were sent out to each household. Sunset Creek was chosen from Boone County because it is a larger development, Prairie Ridge was chosen from Madison County because it is also a relatively large development and because most of its residents are presumed to commute to Des Moines, and Kennelly Subdivision was chosen from Marshall County. Three people attended the focus group in Boone County, no one attended the Madison County focus group, and five people attended in Marshall County.

The goal of each focus group was to gain an understanding of household location choices, which is usually based on availability of services, environmental quality, and existing community. At each focus group, the participants were



Partially completed Prairie Ridge subdivision

asked to complete a survey and participate in a discussion about the expectations for the subdivisions and reasons that motivated them to move there. Survey respondents were asked a variety of questions about how long they have lived in their current subdivision, the communities they moved from, and their expectations for the rural subdivision (i.e. dust control, emergency services, and snow removal) and how those have been met. These same surveys were later mailed to all residents in each of the subdivisions because the attendance at the focus groups meetings was very low; 50 of the 104 that were sent out were returned.

Impact Assessment Tool

Land use changes occur when a parcel of previously agricultural land is proposed to become a rural subdivision. This is increasingly common in Iowa, and often results in a significant increase in the amount of traffic on adjacent roads. This increase in traffic is accompanied by an increase in maintenance costs, and the impact assessment tool can evaluate and compare the costs of different road surfaces.

Key Findings

The statutes and cases must be read within the particular context of any given situation being faced by a local government; however, the following generalizations are appropriate:

- Chapter 311 of the Iowa Code permits counties to establish secondary road special assessment districts for the improvement of secondary roads. The usefulness of this authority is limited by the necessity for a petition of affected landowners to initiate a district, and the geographic limitation on the reach of the special assessment district.
- The county zoning act permits counties to place conditions on rezoning requests and site plan approvals that are “reasonable and imposed to satisfy public needs which are directly caused by the requested change.”
- The county zoning act also permits county boards of adjustment to grant special exceptions/conditional use permits “subject to appropriate conditions and safeguards.”
- Neither the county zoning act, nor court cases interpreting its provisions, has specifically disallowed the requirement

of off-site improvements as a condition of approval of rezoning, site plans or special exceptions.

- The subdivision act permits counties that have adopted subdivision ordinances to place conditions on plat approval that “require the installation of public improvements in conjunction with approval.”
- The subdivision act permits cities that have adopted subdivision ordinances to exercise extraterritorial jurisdiction over subdivisions and plats of survey within two miles of their borders. This is the case in all counties (counties with or without subdivision regulations).
- Neither the subdivision act, nor court cases interpreting its provisions, has specifically disallowed the requirement of off-site improvements as a condition of plat approval.
- Any conditions imposed under either the county zoning act or the subdivision act must meet the U.S. Supreme Court requirements of “essential nexus” and “rough proportionality.”
- The Iowa legislature has not adopted legislation authorizing local governments to charge impact fees to offset the burdens placed on public infrastructure by new developments.
- The Iowa Supreme Court has ruled that, absent impact fee enabling legislation, local government monetary charges associated with permit approval are limited to charges to cover administrative expenses, and not allowed to compensate the local government for development impacts on public infrastructure.

When the effects of the statutes and cases are assembled they pose a challenge to counties trying to keep up with the demands on secondary roads created by new development. The secondary road special assessment provisions rely on the voluntary desire of the landowners to improve the roadway. Iowa currently has no legislation authorizing the collection of impact fees, and the Homebuilders Association case indicates that without that enabling legislation, fee generation schemes designed to cover the impacts of new development are not authorized.

The tipping point for the need for road widening or road improvements is usually reached after a number of new developments are created over a number of years. Local governments are seriously hindered by the inability to collect funds proportionate to each new development’s impact over a number of years, and apply them to road construction costs when that tipping point is reached. Even if the on-site vs. off-site improvements distinction is never recognized by the Iowa courts, the inability to collect road improvement fees and apply them when needed poses a significant challenge.

Other methods of attempting to recoup the costs of development leave local governments running the risk of violating the “rough proportionality” test of the US Supreme Court.

Recommendations

In order to make growth truly pay its own way, the first and best policy alternative to the current legal regime would be for the Iowa legislature to explicitly authorize counties to collect roadway impact fees during the development process. As of July 2006, twenty seven states had adopted some form of impact fee enabling legislation (Duncan and Associates 2006). Road impact fees are the most common type of fee permitted by these legislative acts. These acts incorporate the constitutional standards of “essential nexus” and “rough proportionality” developed by the US Supreme Court, unless the individual state’s courts have articulated a more onerous standard.



Woodland Valley Estates Subdivision

In order to meet the standards, six elements are usually found in state impact fee enabling legislation:

1. A limitation on the distance between the development paying the fee and the facilities constructed with the fee;
2. A limitation on the period of time elapsing between the collection of the fee and the construction of the facilities
3. A method of calculating the fee in relation to the actual costs of the facilities
4. A method of apportioning the fee between developments that takes into account the burden created by the development
5. A requirement that the facilities constructed with the fees indeed satisfy the needs resulting from the development
6. An assurance that the fees collected are restricted solely for the provision of the facilities for which the fees are collected (“earmarking”).

It should also be noted that these state enactments make the adoption of impact fee ordinances and the collection of fees completely optional for local governments.